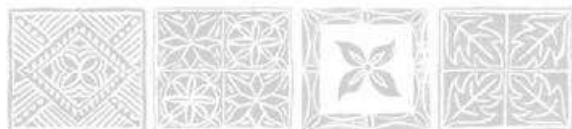


Tourism Development Area 3 Manono Management Plan



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EXECUTIVE SUMMARY

This Management Plan identifies and prioritises adaptive measures for tourism management planning for Manono, building on the community's vision and integrating climate change adaptation and disaster risk management measures.

Community Vision for Manono

A sustainable tourism development area for communities and tourism operators to enhance quality of life for Manono.

We can achieve this through:

- 1. securing access to adequate supplies of water for tourism operations and communities;*
- 2. improving protection to the coastline to safeguard the coastal environment and people;*
- 3. improving employment opportunities associated with the tourism industry integrating the supply and value chain; and*
- 4. maintaining strong cultural and social capital within the tourism product.*

Based on the previous investigations, the community visioning process, further investigations undertaken as part of this project and the timeframes and budget associated with this project a prioritised series of projects has been developed for TDA 3. The recommended adaptation measures have been presented according to the following intervention categories:

- shoreline protection (including enhanced design and siting of tourism facilities and surrounding landscape);
- water resources management;
- Ecosystem responses (including development of climate conscious tourism products, alternative tourism sites and recreational activities); and
- disaster preparedness and emergency facilities in case of disaster events.



Figure 1 Overview of Structural Management Plan Options for Lepuiai



Figure 2 Overview of Structural Management Plan Options for Faleu



Figure 3 Overview of Structural Management Plan Options for Apai

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ACRONYMS

CCSDP	UN Joint Community Centred Sustainable Development Programme
CEHZ	Coastal Erosion Hazard Zone
CFHZ	Coastal Flooding Hazard Zone
CIM	Coastal Infrastructure Management
DMO	Disaster Management Office
GDP	Gross Domestic Product
GEF	Global Environment Facility
LDCF	Least Developing Countries Fund
MNRE	Ministry of Natural Resources and Environment
M&E	Monitoring and Evaluation
P3D	Participatory 3 Dimensional
STA	Samoa Tourism Authority
SWA	Samoa Water Authority
TDA3	Tourism Development Area 3 Manono (North West Upolu)
TDA	Tourism Development Area
UNDP	United Nations Development Program

1. INTRODUCTION

This document is a Management Plan prepared for Tourism Development Area 3 Manono (North West Upolu) (TDA 3). This Management Plan should be read in conjunction with the Enhancing the Resilience of Tourism Reliant Communities to Climate Change Risks TDA Management Plan Report (“the Report”), which describes the overall background and methodology for the preparation of Management Plans for six nominated Tourism Development Areas in Samoa. The Management Plan is also supported by the Samoa Tourism Authority’s Technical Guidelines for Tourism Operators.

The preparation of this Management Plan is one aspect of the *Enhancing the Resilience of Tourism-Reliant Communities to Climate Change Risks Project* (“the Project”). The objective of the overall Project is to enhance the resilience of tourism-reliant communities to climate change risks by integrating climate change into development policy and instruments and investing in adaptation actions supporting tourism reliant communities. The Project recognises that Samoa’s tourism sector, which is a mainstay of Samoa’s economy and a core contributor to Gross Domestic Product (GDP), is highly vulnerable to the slow onset impacts of climate change.

The Project is being implemented by the Government of Samoa with financial assistance from the Global Environment Facility (“GEF”)/Least Developing Countries Fund (“LDCF”) through United Nations Development Program (UNDP). The national executing partners are the Samoa Tourism Authority (“the Authority”) and the Ministry of Natural Resources and Environment (“MNRE”).

This Management Plan identifies and prioritises adaptive measures for tourism management planning for Manono, building on the community’s vision and integrating climate change adaptation and disaster risk management measures. The Plan focuses on small to medium tourism operators and the communities in which they operate. Some of these measures can be implemented with funding connected to this component of the Project. Other strategies fall outside the scope of this funding. However information and Technical Guidelines have been developed and made available to tourism operators, prospective operators and communities so that they can plan for the implementation of adaptive measures. In some cases tourism operators or groups of tourism operators may use this information to seek funding through other mechanisms including the Tourism Climate Change Small Grants Program.

2. DESCRIPTION OF TDA 3 MANONO (NORTH WEST UPOLU)

2.1 Overview

Manono is a small island of Samoa situated approximately 3.4 km west north west off Upolu in the Apolima Strait between the main islands of Savai'i and Upolu (see Figure 2.1).

There are four villages located on the island which has a total population of 889. Faleu Tai the largest village is on the southern side of the island, Salua Tai is on the north and Lepuia'i Tai and Apai Tai are on the south-west facing coast.



Figure 2.1 TDA M 3 Manono overview

2.2 Community Vision

A community visioning exercise for TDA 3 was undertaken with active participation by tourism operators and community representatives during a four day workshop in March 2015. The workshop utilised a combined approach in which community visioning was conducted by the Samoa Tourism Authority team and Participatory 3 Dimensional modelling (P3D) was facilitated by the P3D team from Ministry of Natural Resources and Environment – Forestry Division. Participants were asked to consider the 'past, present and future' of their Tourism Development Area (TDA) in order to identify common goals and a realistic practical path forward within the constraints of changing climatic conditions. The P3D process enabled participants to contextualise adaptation options according to geographic and physical variables. Figure 2.3 shows some of the workshop attendees with the model they developed during the workshop.

The community and tourism operators came together with a consensual ‘Vision’ for the management of climate change variables in TDA 3: Manono. The community’s vision is set out in Figure 2.2.

Community Vision for Manono

A sustainable tourism development area for communities and tourism operators to enhance quality of life for Manono.

We can achieve this through:

- 5. securing access to adequate supplies of water for tourism operations and communities;*
- 6. improving protection to the coastline to safeguard the coastal environment and people;*
- 7. improving employment opportunities associated with the tourism industry integrating the supply and value chain; and*
- 8. maintaining strong cultural and social capital within the tourism product.*

Figure 2.2 Community Vision



Figure 2.3 Some of the workshop attendees with P3D model

2.3 Geographic location & characteristics

Manono Island is a low, cone shaped island approximately 2.4km long and 1.5km wide and 290ha in area. The highest point above sea level is 95m.

The island's shoreline is largely rocky with a few small beaches. The only significant sand beach is in front of Apai Tai village. At the rear of the beach is a low-lying area which is vulnerable to storm surge.

There are no cars on Manono. Access around the island is on foot by the road/walking track that circumnavigates the island or by boat inside the reef which is located approximately 1km off-shore. Many properties have private jetties (often concrete slabs), jutting into the sea. Access to the island for residents, visitors and tourists is by a 20 minute boat ride from the western tip of Upolu.

The island's main economic activities are budget style accommodation, fishing and gardening. There are small provisional shops within the villages but major supplies are sourced from Upolu. The majority of development on the island of Manono is situated close to the shoreline and within the CEHZ and CFHZ.

Electricity was introduced to Manono in 1995. Mains water supply from Upolu is unreliable particularly for those village further from the connection to the mainland. Many houses rely on small rainwater tanks for most of their water needs.

Figure 2.4, Figure 2.5 and Figure 2.6 illustrate the CEHZ and CFHZ and the position of the road on Manono.



Figure 2.4 Geographic features of Manono



Figure 2.5 – Geographic features of Lepuai



Figure 2.6 Geographic features of Faleu

2.4 Visitor trends

The study team has been unable to access records of visitor numbers for Manono. However, it was apparent that visitors are relatively few. At the time the study team visited Manono there were only two tourists on the island. Resort owners indicated that since mid-2014 tourist numbers have been down.

2.5 Operator Profiles

Within the South East Upolu TDA, small to medium tourism operators within the scope of this Management Plan include 2 Fale accommodation operators. Table 2.1 lists Tourism Operators targeted in this project based on information provided by Samoa Tourism Authority (STA).



Accommodation Providers	
<p>Sunset View Fales</p>  <p>Source: www.tripadvisor.com</p>	<p>Location: Lepuai</p> <p>Number and Type of Fales: 9 fale (6 lockable) providing 20 beds</p> <p>Facilities and Services: 4 with ensuites shared facilities sea view dining area jetty</p> <p>Tourist Experience Offered peace and quiet beautiful views of the lagoon opportunities to explore the island on foot and meet local people</p>
<p>The Sweet Escape</p>  <p>Source: www.samoa.travel</p>	<p>Location: Faleu</p> <p>Number and Type of Fales: 6 rooms (4 lockable fale and 2 private rooms)</p> <p>Facilities and Services: shared facilities seaview dining area</p> <p>Tourist Experience Offered peace and quiet beautiful views of the lagoon opportunities to explore the island on foot and meet local people</p>

Table 2.1 Tourism Operators targeted in this Management Plan

2.6 Potential for Diversification of Tourism Offerings

Tourism within TDA 3 inevitably focuses on the quiet island experience and the beautiful views of the lagoon. However there is potential for diversification of the tourist products on offer within TDA 3 to include guided walks and traditional village and family experiences, provision of food (both raw and cooked), sale of handicrafts and traditional activities such as cooking methods, explaining and/or demonstrating traditional massage, handicrafts and tattoo as well as visiting cultural sites such as Mauga Fetu (Ancient Star Mound) and Pa Le Soo (Grave of the 99 Wives).

3. CLIMATE CHANGE VULNERABILITY AND ADAPTATION MEASURES

3.1 Overview

This Management Plan builds on work previously undertaken as part of the *Enhancing the Resilience of Tourism-Reliance Communities to Climate Change Risks Project* (The Project) which described hazards, risks and vulnerabilities for existing tourism assets within TDA 3 and identified existing climate adaptation mechanisms as well as further adaptation options (IPA 2015a and IPA 2015b). The Project's Implementation Plan (IPA 2015b) describes the key focus for Manono as **water security and hard options for access**.

Key climate change related concerns in this TDA include:

- village and individual wharves which are critical to access to and from Manono are at high risk from wave action, cyclones and from undermining and removing of rock during storm events;
- surface run-off during periods of heavy rain and cyclones leading to coastal erosion and flooding;
- buildings, structures and key infrastructure including the road that circumnavigates the island, electricity lines, the telephone microwave station at Faleu Tai, the overhead telephone network and the main water pipe are in the CEHZ and CFHZ and vulnerable to complete destruction during cyclones and storm surge;
- individuals, business and villages frequently rely on rainwater capture because the reticulated water supply is unreliable thus water security is a significant issue during periods of low rainfall;
- sand mining from beaches (the local beaches are the only source of sand for construction on the island) leading to coastal erosion;
- construction of private jetties from loose coast rock potentially increasing the rate of localised erosion and reducing sand accretion.

The recommended adaptive measures in this Management Plan take into account initiatives which impact on climate change resilience in Manono identified through a range of international, national and local projects. Information provided during the recent community visioning exercise has been reviewed in conjunction with previous initiatives and analysis of this information is grouped into categories in line with the following intervention areas:

- shoreline protection (including enhanced design and siting of tourism facilities and surrounding landscape);
- water resources management;
- Ecosystem responses (including development of climate conscious tourism products, alternative tourism sites and recreational activities); and
- disaster preparedness and emergency facilities in case of disaster events.

3.2 Shoreline protection

3.2.1 Shoreline protection

During the visioning process the community identified improved protection to the coastline to safeguard the coastal environment and people as a strategy to achieve the community's vision of

sustainable tourism. Participants in the consultation process suggested there was a need to plant more trees along the coastline.

The Menu of Adaptation Options (IPA 2015b) previously developed for The Project assesses and prioritises the following adaptation options out of a possible score of 25:

- appropriate coastal protection system tied in with buffer green belt designed for possible construction along tourism operators' waterfront – 21/25.

The Village Sustainability Plan identified seawall repair, upgrade and construction as a high priority for Manono as well as identifying a goal to introduce bioshields, protective coastal vegetation to protect the coastline and coral seeding to improve the function of the reef as a protective barrier. CIM Implementation Guidelines (MNRE IAMP-1 & MNRE SIAM-2) recommended that the Village and the Ministry of Internal Affairs arrange for agreement on the construction and maintenance of seawalls. The Guidelines also recommended villages and families identify and plant areas where vegetation will help trap sand and that sand mining be better controlled.

Adaptive measures that have been implemented include:

- after the tsunami eroded the coastal strip in front of Sweet Escape, the operators reclaimed land in front of the existing beach fales and constructed a rock seawall, using manual labour; and,
- Sweet Escape planted some trees along the shore as a form of protection.

3.2.2 Enhanced design and siting of tourism facilities and surrounding landscape

During the community workshops some participants expressed concern that buildings were exposed to the weather and the sea and were not safe in bad weather. Both CIM Implementation Guidelines (MNRE IAMP-1 & MNRE SIAM-2) and the Manono Island Village Sustainable Development Plan (CCSDP 2010) identified relocation of vulnerable housing and infrastructure to safer areas inland (on the inland side of the road) as a priority.

Adaptive measures that have been implemented include:

- The *Minimum Accommodation Standards for Beach Fales* were strengthened as part of the *Tourism Tsunami Rebuilding Program* which adopted a build back better approach. The revised Standards also specify the minimum distance from the high water mark for septic tanks.
- Sunset View Fales report that they strengthened the design of their fales and built them further up the hillside away from the sea

3.3 Water resource management

During the visioning process the community identified secure access to adequate supplies of water for tourism operators and communities as a key strategy for enhancing quality of life and achieving sustainable tourism. Reliable water supply was strongly expressed as a concern by participants in the community visioning workshop and more water tanks were identified as a possible solution. One of the tourism operators explained that their water supplies run out at least once a month requiring them to transport water from the tank at the family residence across the road.

The Menu of Adaptation Options (IPA 2015b) previously developed for The Project assessed the priority of a range of adaptation options and assigned a possible score out of 25 to each option (ie the higher the score the greater the priority). The Menu identifies the following options in TDA 3:

- investigate and develop rainwater harvesting from roofs and provide adequate water storage tanks, micro-catchment, small reservoir – 21/25;
- investigate technologies and promote practices that contribute to water conservation – 18/25;
- develop water safety plans - 17/25.

CIM Implementation Guidelines (MNRE IAMP-1 & MNRE SIAM-2) recommended that as the main line water supply network is upgraded, Samoa Water Authority (SWA) provide for relocation of the water mains to the inland side of the road.

Adaptive measures that have been implemented include:

- Both Sunset View Fales and Sweet Escape have installed some water tanks and the operator at Sunset View Fales has installed a centralised storage tank and water pump. While Sweet Escape reports running out of water at least once a month, Sunset View Fales report that they have periodically provided water to the village during drought;
- Sunset View Fales has signs asking visitors to be cautious about water usage; and,
- Samoa Red Cross, under the Water and Sanitation Project managed an initiative to supply water tanks to operators and the community where water supply was severely disrupted.

3.4 Ecosystem Based Response including Development of climate conscious tourism products, alternative tourism sites and recreational activities

During the visioning process the community identified improved employment opportunities by integrating the supply and value chain for the tourism industry as a strategy to achieve the community's vision of a sustainable tourism industry. Mindful of its vision of a tourism industry that enhances the quality of life in Manono the community also identified the need to maintain strong cultural and social capital within the tourism product.

The Manono Island Village Sustainable Development Plan (CCSDP 2010) also identified goals related to expanding small scale business and tourism operations, accessing eco-tourism training and expanding the handicraft market. Another goal within the Village Plan that could contribute to the development of diversified tourism activities is the goal to reach a consensus on the historical interpretation of legend and history and document these stories.

Access for both locals and tourists has also been identified as a key issue in Manono. The Village Sustainability Plan identified a goal to improve wharf infrastructure. CIM Implementation Guidelines (MNRE IAMP-1 & MNRE SIAM-2) recommended upgrading the wharf at Faleu and limiting the construction of new jetties, with villages and families encouraged to maintain and use village wharves.

The Menu of Adaptation Options (IPA 2015b) previously developed for The Project assesses and prioritises the following adaptation options out of a possible score of 25:

- improve wharves/jetties infrastructure to access the island – 18/25.

3.5 Disaster preparedness and emergency facilities in case of disaster events

Participants at the community consultations expressed a need for a 'safe house' to be used during disasters such as cyclones.

The Village Sustainability Plan identified a goal to construct a disaster safe house and to ensure that escape routes to the safe house are known and utilized as well as a need for training in relation to disaster management planning. CIM Implementation Guidelines (MNRE IAMP-1 & MNRE SIAM-2) recommended the Villages identify safe areas and relocate disaster management resources, including the First Aid Box to those areas.

4. RECOMMENDED ADAPTATION MEASURES FOR IMPLEMENTATION

4.1 General

Based on the previous investigations, the community visioning process, further investigations undertaken as part of this project and the timeframes and budget associated with this project a prioritised series of projects has been developed for TDA 3. The recommended adaptation measures have been presented according to the following intervention categories:

- Enhanced design and siting of tourism facilities and surrounding landscape;
- Water resource management;
- Shoreline protection;
- Development of climate conscious tourism products, alternative tourism sites and recreational activities; and
- Disaster preparedness and emergency facilities in case of disaster events.

4.2 Discussion

The recommendations in this section take into account the current focus of tourism products in TDA 3. Seaside accommodation with sea views and peaceful island living without cars and dogs have underpinned the development of tourism in this TDA. However, the TDA's resilience to climate change could be enhanced through diversification of tourism products. As such this Management Plan contains recommendations relevant to diversifying tourism products and supporting business development for tourism operators, potential operators and those who carry out business within the supply and value chain.

Previous work identified the focus for this TDA as water security and access. Measures relating to improved water security area priority for the community as are issues of access. Additional measures about protecting the shoreline were also identified as necessary for the community to support their vision.

4.3 Recommendations

Figure 4.1, Figure 4.2 and Figure 4.3 present an overview of structural options recommended for Lepuai, Faleu and Apai respectively.

Table 4.1 provides a summary list of the actions that have been prioritised for implementation as part of this project and also those that may be suitable for the Tourism Climate Change Small Grants Program.

Table 4.2 presents a proposed timeline for implementation of the prioritised actions.

Table 4.3 provides a summary list of adaptive actions that emerged from the preparation of the Management Plans. It is recommended that where possible, STA support tourism operators to make approaches to the relevant project or government organisation to facilitate inclusion of those actions in other projects or programs.



Figure 4.1 Overview of Structural Management Plan Options for Lepuiai



Figure 4.2 Overview of Structural Management Plan Options for Faleu



Figure 4.3 Overview of Structural Management Plan Options for Apia

Table 4.1 Priority Activities to take place under the Enhancing the Resilience of Tourism Reliant Communities to Climate Change Risk Project

Activity	Outputs	Targeted (Operator/Prospective Operator/Community)	Priority	Commence	Duration	Budget Allocation (USD)	Relevant Technical Guideline
Shoreline Protection							
Knowledge sharing and transfer for tourism operators and community members in strategies and techniques to protect the shoreline and improve coastal defences including sea-wall construction and wave protection measures to reduce vulnerability.	Workshops developed and delivered to tourism operators and tourism reliant communities to share knowledge about shoreline protection.	Tourism operators and communities	Medium	January 2016	12 months		5
Utilising <i>Revegetation and Landscaping Technical Guidelines for Tourism Operators</i> , establish demonstration sites for landscaping of the coastline including planting of vegetation and bio-shields to assist with increasing the resilience of the foreshore.	Revegetated foreshore demonstration sites established in conjunction with each tourism operator	Tourist operators	Medium	January 2016	18 months		5
Utilising <i>Monitoring the Beach Technical Guidelines for Tourism Operators</i> , implementation of a Sandwatch (or equivalent) program for ongoing beach monitoring and knowledge transfer about beach	Ongoing monitoring program, including use of education tools, established in each village	Community	High	September 2015	18 months		5

Activity	Outputs	Targeted (Operator/Prospective Operator/Community)	Priority	Commence	Duration	Budget Allocation (USD)	Relevant Technical Guideline
conditions							
Enhanced Design and Siting of Tourism Facilities and Surrounding Landscape							
Improved climate resilience of tourism related buildings, such as beach fales, sanitation facilities and associated structures by implementation of prioritised elements of Climate Conscious Sustainability Plans by individual tourism operators or groups of tourism operators.	<ol style="list-style-type: none"> 1. Training developed and delivered for tourism operators about climate smart design, siting and standards and the application of the <i>Climate Smart Design and Siting Technical Guidelines for Tourism Operators</i>. 2. Tourism operators assisted to develop long term Climate Conscious Sustainability Plans utilising <i>Planned Retreat Technical Guidelines for Tourism Operators</i>. 3. Prioritised elements of Climate Conscious Sustainability Plans implemented. 	Tourist operators	High	September 2015	2-3 years		3
Develop design guidelines and template plans for affordable high tide resilient jetties .	Design guidelines and template plans which provide design, costings and provide the details necessary to support funding applications.	TDA 3 - Community	High	June 2015	18 months		3

Activity	Outputs	Targeted (Operator/Prospective Operator/Community)	Priority	Commence	Duration	Budget Allocation (USD)	Relevant Technical Guideline
Water Resources Management							
Improved Water Security development of an Integrated Rainwater Use and Capture Plan for each tourism facility.	<ol style="list-style-type: none"> 1. Training developed and delivered for tourism operators in integrated water resource management techniques including the application of the <i>Water Resources Security Technical Guidelines for Tourism Operators</i>. 2. Tourism operators assisted to develop Integrated Rainwater Use and Capture Plan utilising <i>Water Resources Security Technical Guidelines for Tourism Operators</i>. 	Tourist operators	High	September 2015	6 months	\$121,429	4
Implementation of Integrated Rainwater Use and Capture Plans through installation of water tanks, guttering, pumps, filters etc by individual accommodation providers or groups of accommodation providers.	Individual tourism operators or groups of tourism operators make application through the Tourism Climate Change Small Grants Scheme.	Tourist operators	High	September 2015	12 months	Tourism Climate Change Small Grants Scheme	4
EcoSystem Based Responses including Development of Climate Conscious Tourism Products, alternative Tourism Sites and Recreational Activities							
Develop and deliver climate change resilience training for tourism operators and prospective tourism operators	Training in climate change resilience developed and delivered to tourism operators and prospective tourism operators.	Tourism operators and prospective tourism operators	High	September 2015	12 months		6
Building on the outcomes of the	1. Cultural, archaeological and natural	Community	Medium	January	18 months		6

Activity	Outputs	Targeted (Operator/Prospective Operator/Community)	Priority	Commence	Duration	Budget Allocation (USD)	Relevant Technical Guideline
Participatory 3D Mapping and previous work by STA and with ongoing consultation with the community, develop implementation plan for tourism opportunities based on cultural, archaeological and natural attraction identification development study	attraction development study undertaken in consultation with the community 2. Implementation plan developed			2016			
Assist tourism operators, prospective tourism operators and villages to increase climate change resilience of local tourism by diversifying tourism offerings through: <ul style="list-style-type: none"> • development of climate conscious tourism products based on cultural, archaeological and natural resources identification. • identifying and planning for infrastructure requirements to support diversified tourism activities • identifying pathways for funding the design and construction of those requirements. 	Useful resources and support available to tourism operators and prospective tourism operators who are considering diversifying tourism offerings or developing services within the tourism supply and value chain	Tourism operators, prospective tourism operators and community	Medium	January 2016	2 -3 years		6

Activity	Outputs	Targeted (Operator/Prospective Operator/Community)	Priority	Commence	Duration	Budget Allocation (USD)	Relevant Technical Guideline
<ul style="list-style-type: none"> • building sustainability of diversified tourism offerings through facilitating access to “Business Incubator” support for businesses or prospective businesses within the tourism supply and value chain, addressing <ul style="list-style-type: none"> ○ Business management and marketing ○ Mentoring/support • Regulatory framework 							
<i>Disaster Preparedness and Emergency Facilities in Case of Disaster Events</i>							
Improve warning/escape route signage in tourist accommodation.	Adequate written information about escape routes and procedures displayed for guests in tourist accommodation	Tourist operators	High	September 2015	6 months		-

Table 4.3 Activities identified during the Enhancing the Resilience of Tourism Reliant Communities to Climate Change Risk Project to be referred to other Projects or Organisations

Activity	Action Targeted (Operator/Prospective Operator/Community)	Priority	Commence
<i>Shoreline Protection</i>			
Review existing coastal defences and access structures and plan for development and implementation of appropriate new access structures and coastal defences	Refer to responsible body under CIM Plan	Medium	2-5 years
Re-establish beachfront at Sweet Escape	Refer to responsible body under CIM Plan	High	1-3 years
Coral seeding and crown of thorn removal to improve the resilience and barrier role of reefs	Support an approach to MNRE Forestry Division	Low	1-3 years
Utilising <i>Revegetation and Landscaping Technical Guidelines for Tourism Operators</i> , establish demonstration sites for landscaping initiatives to enhance forest assets through including planting of vegetation and bio-shields to assist with decreased soil erosion and improved water quality.	Support an approach to MNRE Forestry Division	Medium	1-3 years
Improved enforcement of environmental protection legislation and agreements eg sand mining, land clearing, wetland management and protection, marine conservation areas	Recommend consideration as part of the Village Sustainability Plans	High	1-3 years
<i>Water Resources Management</i>			
Establish emergency water supplies within villages through development of agreed processes and installation of the necessary infrastructure (tanks,	Recommend consideration as part of Village Sustainability Plan and support approaches to: <ul style="list-style-type: none"> • Red Cross 	High	18 months

guttering) to capture run off from identified large roof area (eg school, church)	<ul style="list-style-type: none"> Civil Society Support Program 		
<i>EcoSystem Based Responses Including Development of Climate Conscious Tourism Products, alternative Tourism Sites and Recreational Activities</i>			
Plan for relocation of walkway/infrastructure assets away from vulnerable areas within the CEHZ and CFHZ.	Refer to responsible body under CIM Plan	Medium	3-5 years
Identify and develop market niche for the TDA reflecting diversified tourism offerings and developing marketing plan for TDA within broader Samoan tourism brand.	Recommend consideration by STA	Medium	1-3 years
<i>Disaster Preparedness and Emergency Facilities in Case of Disaster Events</i>			
Build/complete/maintain escape routes	Recommend consideration as part of the Village Sustainability Plans and support an approach to DMO	High	6 months
Improve warning/escape route signage within villages and along access and escape routes.	Recommend consideration as part of the Village Sustainability Plans and support an approach to DMO	High	6 months
Appropriate siren and location of siren in each village	Support an approach to DMO	High	6 months
Appoint and train 1 to 2 community disaster wardens per village	Recommend consideration as part of the Village Sustainability Plans and support an approach to DMO	Medium	12 months
Construct disaster/safe houses for each village including first aid centre.	Recommend consideration as part of the Village Sustainability Plans and support an approach to DMO	Low	1-3 years

5. MONITORING AND EVALUATION

Specific Monitoring and Evaluation (M&E) recommendations do not form part of this current project. However, it is understood that M&E will be undertaken consistent with the overall M&E measures as detailed within Table 4 of IPA 2015b.

6. REFERENCES

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